

## AMENDMENTS TO THE CLAIMS

### 1. (Original)

1                   Apparatus for inspecting lean of a container having a container bottom, which  
2                   includes:  
3                   means for holding a container in position and rotating the container around  
4                   an axis,  
5                   a light source positioned beneath the container in said means for directing  
6                   light energy onto the bottom of the container,  
7                   a light sensor positioned beneath the container to receive portions of the light  
8                   energy from said source reflected from the container bottom, and  
9                   an information processor coupled to said light sensor for determining, as a  
10                  combined function of said reflected light energy and container rotation, departure of the  
11                  container bottom from a plane perpendicular to said axis.

### 2. (Currently Amended)

1                   The apparatus set forth in claim 1 wherein said light energy is directed from  
2                   said source onto a periphery of the container bottom and said information processor  
3                   determines departure of the periphery of the container bottom from said plane  
4                   perpendicular to said axis.

3. (Currently Amended)

1           The apparatus set forth in claim 2 wherein the container includes knurling  
2    around the periphery of the container bottom, and said image process or processor is  
3    responsive to said reflected light energy to determine depth of said knurling.

4. (Original)

1           The apparatus set forth in claim 1 wherein said information processor  
2    includes a preprocessor for scanning said light sensor at first increments of container  
3    rotation, and a main processor for receiving scan data from said preprocessor at second  
4    increments of container rotation greater than said first increments.

5. (Original)

1           The apparatus set forth in claim 1 wherein said means for holding the  
2    container in position and rotating the container around an axis includes spaced backup  
3    rollers for externally engaging the container, and a drive roller for engaging and rotating the  
4    container while holding the container against said backup rollers so as to define an  
5    average axis of rotation as a function of geometry of the container and spacing between  
6    said backup rollers.

6. (Currently Amended)

1           The apparatus set forth in claim 1 comprising two of said light sources and  
2       two of said light sensors positioned in pairs on diametrically opposed sides of said axis,  
3       said information processor being responsive to ~~compression~~ a comparison of outputs of  
4       said light sensors to indicate lean of a container.

7-17 (Cancelled)

18. (Currently Amended)

1           The ~~optical inspection~~ apparatus of claim 7 1, wherein said apparatus is  
2       adapted for inspecting a bearing container bottom surface having a plurality of knurls,  
3       wherein the knurls cause said light sensor to receive non-continuous reflections from a  
4       knurl peak and a knurl valley.

19. (Cancelled)

20. (Currently Amended)

1           The ~~optical inspection~~ apparatus of claim 19 18, wherein said sensor output  
2       signal at least includes first outputs representing reflections from the knurl peak and  
3       second outputs representing reflections from the knurl valley.

21. (Currently Amended)

1           The ~~optical inspection~~ apparatus of claim 20, wherein said ~~electronic~~  
2    information processor is adapted to utilize said first outputs to determine container lean.

22. (Currently Amended)

1           The ~~optical inspection~~ apparatus of claim 20, wherein said ~~electronic~~  
2    information processor is adapted to utilize both said first and second outputs to determine  
3    knurl depth.

23-24 (Cancelled)

25. (Currently Amended)

1           The ~~optical inspection~~ apparatus of claim 7 1, wherein said information  
2    processor is adapted to generate a sinusoidal expression representative of ~~the a~~ height  
3    differential between two positions on the bearing surface container bottom.

26. (Currently Amended)

1           The ~~optical inspection~~ apparatus of claim 25, wherein said information  
2    processor uses a least square fitting technique to derive values for one or more variables  
3    of said sinusoidal expression.

27. (Currently Amended)

1           The ~~optical inspection~~ apparatus of claim 26, wherein said derived values can  
2    be are used to determine container lean.

28. (Currently Amended)

1           The ~~optical inspection~~ apparatus of claim 26, wherein said information  
2    processor ~~also~~ uses an iterative search method for determining a sine cycle for said  
3    sinusoidal expression.

29. (Currently Amended)

1           The ~~optical inspection~~ apparatus of claim 28, wherein said iterative search  
2    method is a golden section search.

30. (Currently Amended)

1           The ~~optical inspection~~ apparatus of claim 26, wherein said information  
2    processor ~~also~~ uses a selection process involving Min/Max data points to improve the  
3    efficiency of the least square fitting technique.

31-32 (Cancelled)

33. (Currently Amended)

1           A method of inspecting a container bearing surface, comprising the steps of:

2           (a)    providing a light source generally facing the bearing surface,

3           (b)    providing a light sensor generally facing the bearing surface,

4           (c)    rotating the container about an axis,

5           (d)    causing said light source to emit light which reflects off of a position

6   on the bearing surface,

7           (e)    causing said light sensor to record the position at which the reflected

8   light reflected in said step (d) strikes said light sensor, and

9           (f)    analyzing the bearing surface from said position data recorded in said

10   step (e) departure of the bearing surface from a plane perpendicular to said axis.

34. (Cancelled)

35. (Original)

1           The method of claim 33, wherein the bearing surface being inspected is a

2   knurled surface.

36. (Original)

1           The method of claim 33, wherein step (e) further includes compressing data

2   from said recorded position data.

37. (Original)

1           The method of claim 33, wherein step (f) further includes utilizing a sinusoidal  
2        expression to model the bearing surface of the container.

38. (Original)

1           The method of claim 37, wherein one or more variables of said sinusoidal  
2        expression are solved using a least square fitting technique.

39-40 (Cancelled)